

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Site: _____

Break: 1.1Other: N.D.

DATE:

SUBJECT:

Lake Hartwell PCB Update

FROM:

Rebecca Stark

TO:

David Hill, Chief, Ambient Monitoring Section

In the spring of 1976, Lake Hartwell became the subject of an intensive monitoring program instigated by the discovery of polychlorinated biphenyl (PCB) concentrations in fish tissue higher than the 5.0 ^{ug}mg/g level considered safe by the U.S. Food and Drug Administration (FDA).

^{Subsequently,} Thus, ~~in August, 1976,~~ ^{fish} an advisory against eating ~~from the~~ Lake was released by the South Carolina Department of Health and Environmental Control (DHEC) and the U.S. Environmental Protection Agency (EPA). ^{in August, 1976,}

The Sangamo Electric Company, an electrical capacitor manufacturer ^{near} Pickens, South Carolina, was identified as the primary source of the contaminating PCB's. By changing its operating procedures, the company effectively eliminated the discharge of PCB's into the Lake by 1977. Although PCB's are virtually non-biodegradable, a gradual reduction in the PCB levels in the fish, water, and sediment was expected to occur during the few years following the elimination of PCB input from Sangamo.

The SC-DHEC has continued to monitor PCB levels by collecting fish samples quarterly, concentrating on game and sport species



such as bass and catfish. Sampling locations are indicated in Figure 1. ^{RP} To date, there has been little analysis of the data other than simple visual evaluation for confirming the necessity of continuing the advisory. Figure 2 is a simple line graph of the PCB concentrations found in composited catfish samples collected from three locations specified in Figure 1. Figure 2 is an updated version of one originally prepared by R. J. Bruner (EPA, Surveillance and Analysis Division) and sent to J. E. Jenkins, Deputy Commissioner, SC-DHEC, in January, 1979. Catfish were used for this graph because they are more territorial than bass which are migratory feeders. Catfish are therefore better indicators of local PCB levels.

The lines in Figure 2 indicate an overall decline in PCB concentrations especially in those fish from Twelve Mile Creek, the site closest to the Sangamo Electric Company. This should be, however, a cautious assumption. Four years of PCB data is not enough to significantly denote a definite trend. Statistical verification of this trend could be tricky because of the many variables involved such as the species of fish, its age, size, and ambient environmental conditions. A valid statistical evaluation would minimize as many of these variables as possible.